

INVESTMENT ANALYSIS ON GOAT AND SHEEP FATTENING PROJECT BASED ON THE NEW FOOD FERMENTATION FARMING METHOD (3F METHOD)

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Abstract-Goat and sheep fattening is not a popular business in Indonesia. Farmers only see this kind of business as a side income for them. They only breed 3-10 goat or sheep at one time and use traditional way in fattened the goat and sheep. This is happened because the farmer need a long time to fattened the goat and sheep, lack of capital and lack of resources (Pertanian, 2007). In order to solve the lack of capital problem, nucleus plasma is scheme can be used. This scheme can bridge the farmers (plasma) and the investors (nucleus). The farmers provide land and barn and the investors can provide another facility needed and also guiding the farmer in the fattening process. Before applying the scheme an agreement should be made between two parties about the rights and obligations of both parties, including the selling price from the plasma to the nucleus. Food fermentation farming (3F) method, a new method in goat and sheep fattening need less time, increase the goat weight fast, keep the barn not smelly try to apply in order to overcome the disadvantages in traditional method and to overcome the lack of resources problem. Investor has two places ready to run this project, Cihanjuang and Camp Hulu Cai. Investor wants to see which place is feasible and more profitable by technical analysis and investment performance analysis such as Net Present Value (NPV), Internal Rate of Return (IRR), Pay Back Period (PBP), Return on Investment (ROI), and Return on Equity (ROE). Based on the technical analysis, the environmental condition in Cihanjuang is not suitable because of its location near to residential area and it is also hard to find source of food. The other place, Camp Hulu Cai, is located far from residential area and near to the source of food. After the technical analysis, Camp Hulu Cai is the only suitable place for the goat and sheep fattening project. Based on the calculation of investment performance analysis its NPV is above 0, the IRR is greater than the weighted average cost of capital. In conclusion Camp Hulu Cai is the most feasible place to implement this project both technically and financially.

Key word: Goat, Sheep, fermentation, investment, NPV, IRR, PBP, ROE, ROI.

I. INTRODUCTION

Goat and sheep meat are becoming popular recently. In United States, since a lot of immigrants come to the country, the consumption for goat and sheep meat is rising. Most of immigrants came from Hispanic/Mexican country, Caribbean, Chinese and Korean where goat meat is one of the most popular meats for them. Even though since 1992 the meat goat industry has been the fastest growing segment of livestock production, The United States cannot fulfill their need for goat meat from its production only. To fulfill the demand of goat meat, they imported it from another country such as Australia and New Zealand.

Australia and New Zealand is the major goat meat supplier for US. With the help of US investors, Australia and New Zealand have been able to develop highly professional, centralized in country slaughterhouses, specifically for lamb export purposes. Australia not only exports its goat meat to United States but also to another country such as Middle East, Malaysia, European Union and China.

Australia and New Zealand not only breed goat for its meat but also another purpose such as its fiber. For meat production, these two countries start by choosing the best breed, which is called Boer. The Boer goat is the most notable goat for meat. The breeds have been developed from a genetic pool of native African, India, European,

and Angora goats, and active selection has been carried out within the breed over the past half century. By choosing the best breed to grow, the result of the meat produces also become the best.

Another source said that some of the factors that make the goat a successful meat producing animal, especially under extensive systems, include: the ability to graze and utilize poor forages, the ability to walk long distance, short generation intervals and high reproductive rates, high turnover rates, smaller carcasses, which are conveniently marketed, preserved or consumed over short period of time (O. Mahgoub, 2011).

Systems of goat production differ around the world. In the tropics area, extensive systems prevail and depend on grazing of natural range. For example in Botswana, the majority of the goats are raised under traditional communal husbandry system and only a little of it raised under improved commercial productions systems. In Spain, a traditional intensive milk production system with meat and milk as the major commodities can be found. Under such systems, 20-40 kg kids can be marketed after spring grazing and cheese manufacturing.

Production efficiency of goat meat under traditional system is generally low and can be improved. The major factors causing the low production efficiency are high mortality and low utilization rate. High mortality rate in Africa is caused by poor management practices and lacking of appropriate and reliable marketing system.

Indonesia is one of the countries that have a high population for goat and sheep. Based on the FAOSTATS, in 2008 Indonesian goat population is in number 10 with 15.805.900 head or around 1.83% of world total population. The number of goat and sheep is keep rising along with the increase of human population, but the increase of the goat and sheep population cannot keep up with the demand for its meat. Because of that there is a shortage of supply for goat and sheep meat in Indonesia. But with that condition goat and sheep fattening is not very popular and still uses a traditional way to breed and growth it.

The traditional way to breed and fattened goat and sheep has it weaknesses such as a long time needed to get the results. The long cycle in this

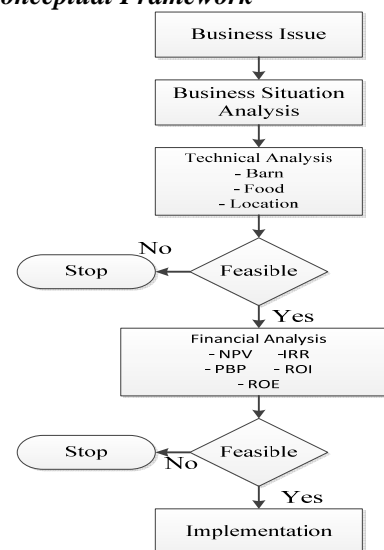
kind of business makes it less profitable and makes it not attractive to investors.

To make it more efficient in goat and sheep fattening, the research in goat and sheep meat producing is flourishing over the past three decades (O. Mahgoub, 2011). However, more goat research has been carried out in developed than in developing countries. But there is another method used by a farm in Salatiga, Central Java that could increase the efficiency of goat and sheep fattening which is called Food Fermentation Farming (3F)

II. BUSINESS ISSUE EXPLORATION

III.

2.1 Conceptual Framework



2.2 Analysis of Business Situation

2.2.1 Market Analysis

- Goat Population in the World

Table 2.1 Countries with the Highest Goat Population

Country	Population (Head)
China	149.376.747
India	125.732.000
Pakistan	56.742.000
Bangladesh	56.400.000
Nigeria	53.800.400
Sudan	43.100.000
Iran	25.300.000
Ethiopia	21.884.222
Mongolia	19.969.400
Indonesia	15.805.900

Source: FAOSTAT 2011

Indonesia is in the top ten goat population in the world.

- Goat and Sheep Population in Indonesia

The population of the sheep in Indonesia is keep rising from year to year as shown in the table below

Table 2.2 Goat and Sheep Population (Head) in Indonesia

Year	2007	2008	2009	2010	2011
Goat	14.47 0.214	15.14 7.432	15.81 5.317	16.61 9.599	17.48 2.722
Sheep	9.514. 184	9.605. 339	10.19 8.766	10.72 5.488	11.37 1.630

Source: Statistik Peternakan dan Kesehatan Hewan 2011

The increase of goat sheep population shows that there is an increase in demand for the sheep not only for its meat but also other thing such as its fur and skin. But usually goat and sheep only breed as a side income for farmers. They only breed sheep in a small numbers because the farmers have limited capital, natural resources and knowledge (Pertanian, 2007)

- Goat and Sheep Meat Consumption in Indonesia

Based on the data from the ministry of agriculture the availability of and consumption for goat and sheep meat are shown in the table below:

Table 2.3 Goat and Sheep meat Availability and Consumption (ton)

	2008	2009	2010
Goat Meat Availability	34.000	35.400	35.400
Goat Meat Consumption	34.275	34.710	35.633
Sheep Meat Availability	24.000	28.200	23.000
Sheep Meat Consumption	25.135	27.768	23.933

From the table above the consumption of goat meat exceed the availability, to fulfill this consumption they imported goat meat from other country. This is an opportunity for the farmers to fulfill the lack of supply of goat meat to fulfill domestic market.

2.2.2 Industry Analysis

To analyze the industry writer used the five forces of Porter which consists of threat of new entrants, rivalry among existing firms, threat of substitute products, bargaining power of suppliers, and bargaining power of buyers.

2.2.2.1 Threat of New Entrants

The threat of new entrants in goat and sheep fattening is high. Goat and sheep fattening is still use a traditional method and in a small scale. Usually each farmer only handle around 3-10 goat or sheep. If they want to build a farm in a high scale the fund needed is not too many also. The government also now more focused in cow meat production with their program to fulfill the domestic demand in 2014.

2.2.2.2 Rivalry among Existing Firms

As mentioned before most of the goat and sheep fattening are still owned by a farmer with a small number of goat and sheep. Even though there is already a farm with big number of goat and sheep but the number is not too much. The rivalry among existing firm is considerably low because most of the firm use the same way in goat and sheep fattening.

2.2.2.3 Threat of Substitute Products

The threat of substitute product in goat and sheep meat is very high. As we know that goat and sheep is not the first choice of meat that will be consumed by the customer. They prefer to eat beef, chicken meat or fish. Goat or sheep meat maybe only become the third or four choices. Except in some countries in Middle East where goat and sheep meat become their first choice of meat.

The switching cost from one meat product to another meat product is relatively low. When the price of beef is rising, customers can easily choose another meat which is more affordable for them.

2.2.2.4 Bargaining Power of Buyers

The bargaining power of the buyers is considerably high because mostly the customer for goat and sheep is a restaurant or food places that serves goat and sheep meat in their menu. They tend to purchase a big number of meats for their stock. The number of goat and sheep seller is also a lot so it will easily change from one supplier to another supplier to find the right price and it do not need high cost.

2.2.2.5 Bargaining Power of Suppliers

The supplier for goat and sheep new breed is a lot. To buy a goat and sheep at the age of 4-6 months is very easy. It is easy for the farm switching from one supplier to another supplier. The switching cost is not high also. Even though the supplier can start their own fattening farm but still the bargaining power of supplier is not high.

2.2.3 Technical Analysis

2.2.3.1 Sheep Characteristic

Sheep is more preferable than goat because some of characteristic that the sheep has which are:

- Sheep is easy to adapt with new environment
- Sheep live in a cluster so they are easy to pastured
- Sheep is fast to breed
- Sheep is more resistant to disease
- Sheep's meat is tenderer and not smelly like goat meat

While the goat characteristics are:

- Could be breed in an extreme climate condition
- Need a long time to adapt with new environment
- Can walk long distance
- High reproductive rate

2.2.3.2 Farm Location

The location of the farm need to be determine very carefully. There are some factors need to be considered in choosing the farm location. Those factors are:

- Environmental Condition

Environmental conditions that need to be considered are the land contour, temperature, and humidity. Land contour to breed sheep and goat should be flat to ease sheep and goat raise. Beside that with flat land contour, it will reduce the cost to build the barn.

- Natural Resources

Natural resources around the farm location also very important in build a farm for sheep and goat. An area with a lot of natural resources will ease the fattening process of sheep and goat. The resources that need to be considered are water supply and food supply. Water supply can be found form the river, ponds, or land water. If the location is easy to get water supply it will reduce the transportation cost to get water.

2.2.3.3 Barn

There are two type of barn that can be used to breed sheep and goat:

- Non-stage barn

This kind of barn is already used for a long time. The floor made from soil or cement. The barn is very easy to made and also cheap because it do not need a lot of poles or pillar. The disadvantages of this kind of barn are hard to clean and the air circulation around the barn is not good.

- Stage barn

Stage barn is more common to use lately. There is a distance between the surface of the land and the barn's floor. The surface under the barn usually is sloping to the sewer. This kind of barn is easy to clean and to maintain. The air circulation is also much better in stage barn.

At this time most of the barn uses in goat and sheep fattening is the stage barn. In the traditional ways in fattening goat and sheep farmers usually still used flat floor as the base of the barn. The disadvantage in using this kind of floor is hard to clean the floor and make the barn look dirty and moist.

While in the 3F method the floor of the barn is sloping. It makes it easy for the farmer to clean it. In addition because in the 3F method the feces of the livestock is not too much they do not need to clean it every day. If they do not clean it, it could make the livestock attack by disease because of the barn is not clean.

2.2.3.4 Food

- Green Food

This type of food consists of grass or leaves. Green fodder can be given in fresh or withered shape. The fresh one will be like best by the sheep. Green food will be given twice a day. This is because if the sheep given too much food they will not have time to rest. The effect of green food will be taken effect if the sheep eat little by little. This is the most common type of food use widely. The goat and sheep feed twice a day, in the morning and in the afternoon.

- Fermentation Food Farming (3F)

The main idea of this method is by giving the livestock food that already through fermentation process by bacterial. The ingredients of the food are straw, cassava, tofu waste, mineral, salt, bran, the bacterial itself, and water.

The fermentation process is start by chopping the straw and cassava. Then the straw and cassava that already chopped is mixed together. After the straw and cassava is mixed flatten it and then pour the bran all over the flatten straw and cassava.

Then mix water, mineral for goat, salt, and the bacterial in a bucket. Pour the second mix into the surface of the first mix. Make sure that the final result is not to wet. Then put it all the mix into a barrel the seal it. The fermentation process only need 24 hours.

The advantages of giving this fermentation food to the sheep and goat are the absorption process in the rumen of goat and sheep is very fast. In 4 hours the goat and sheep will crave for food again. Another advantage is the feces of the sheep and goat is much less than if they give grass or concentrate, and the feces is not stinky.

2.2.4 Financial Feasibility Study

The financial feasibility for the lamb and goat fattening project will be analyzed through capital budgeting procedures. Two aspects that will be analyzed are:

- Income Statement, which will produce free cash flow (FCF)
- Investment Performance

2.2.4.1 Income Statement

Income statement is part of financial statement that shows the revenues, expenses, and net income of a firm over a period of time. The components of income statements are revenues, cost of goods sold, operating expenses, other revenues and gains, other expenses and losses, taxes and the bottom line the net income. The example of income statement is shown below.

Income Statement	
Revenues	
Less : Cost of Goods Sold	
Gross Profit	
Less : Operating Expenses	
Income from Operating Expenses (EBIT)	
Add Other Revenues and Gains	
Less :Other Expenses and Losses	
Earning Before Tax (EBT)	
Less Tax Expense	
Net Income	

2.2.4.2 Free Cash Flow (FCF)

Free cash flow (FCF) is the amount of cash flow available to investors (creditors and owners) after the firm has met all operating needs and paid for investments in net fixed assets and net current assets.

Free cash flow (FCF) can be defined as follows:

$$\text{FCF} = \text{OCF} - \text{Net Fixed Asset investment} - \text{Net Current Asset Investment}$$

The net fixed asset investment is the net investment that the firm makes in fixed assets and refers to purchase minus sales of fixed assets. The calculation of NFAI shown below:

$$\text{NFAI} = \text{Change in net fixed assets} + \text{Depreciation}$$

The NFAI is also equal to the change in gross fixed assets from one year to the next.

2.2.4.3 Cost of Capital

Investing capital in a project required return as payoff for the investors (debt or equity). This payoff called rate of return or cost of capital. Cost of capital is a benchmark for the investor when they investing their capital. An investment would be called profitable if the rate of return is above the cost of capital.

Because of that rate of return will be the benchmark to compare the Internal Rate of Return (IRR) and also used as the discount factor to calculate the Net Present Value of an investment. The cost of capital is a weighted average of the returns demanded by debt and equity investors. The weighted average is the expected rate of returns investors would demand on a portfolio of all the firm's outstanding securities.

The weighted average cost of capital equation is shown below:

$$WACC = [Kd(1 - T) \cdot \left(\frac{D}{D + E}\right) + Ke \cdot \left(\frac{E}{D + E}\right)]$$

WACC = Weighted Average cost of capital

D = Debt

E = Equity

Kd = Cost of Debt (%)

Ke = Cost of Equity (%)

T = Tax

2.2.4.4 Investment Performance

To evaluate the performance of an investment there are some indicators that can be used. Those indicators are:

- Net Present Value (NPV)
- Payback Period (PBP)
- Internal Rate of Return
- Return on Investment
- Return on Equity

Net Present Value (NPV) is an indicator of investment performance that already considered the time value of money. When firms make an

investment, they are spending money which they obtained from the investors. The investors expect a return on the money that they give to the firms, so a firm should undertake an investment only if the present value of the money they generate is greater than the cost of investment. The NPV is found by subtracting a project's initial investment from the present value of the cash inflows discounted at a rate equal to firms cost of capital.

$$NPV = \sum_{t=1}^n \frac{CF_t}{(1+r)^t} - CF_0$$

CF_0 = Initial Investment

CF_t = Present Value of Cash Inflow

r = Cost of Capital

When NPV is used to determine whether the project could be accepted or not the criteria are as follows:

- If the NPV is greater than Rp 0, accept the project
- If the NPV is less than Rp 0, reject the project

Payback Period is the amount of time required for the firm to recover its initial investment in a project, as calculated from cash inflows. As an illustration if the sum of cash inflow at year 3 is equal to the initial investment, so the payback period is 3 years.

Internal Rate of Return is the discount rate that equates the NPV of investments opportunity with Rp 0 (because the present value of cash inflows equal to initial investment). It is the rate of return that the investors will receive if they invest and receive the given cash inflows.

The equation is shown below:

When IRR is used to determine the project could be accepted or not the criteria are:

- If the IRR is greater than the cost of capital, accept the project
- If the IRR is less than the cost of capital, reject the project

Return on investment (ROI), also called return on total assets (ROA) according to Lawrence J.

Gitman, measures the overall effectiveness of management in generating profits with its available assets. The ROA or ROI calculated as follows:

$$ROA \text{ or } ROI = \frac{\text{Net Income}}{\text{Total Assets}}$$

In accordance to measures the effectiveness of new investment, ROI calculated from the average of Present value EBIT divided by total investment. The equation as follow:

$$ROA \text{ or } ROI = \frac{\text{Average PV EBIT}}{\text{Initial Investment}}$$

Return on Equity (ROE) measures the return earned on the common stockholder's investment in the firm. Generally, the owners are better off the higher is this return. ROE is calculated as follows:

$$ROE = \frac{\text{Net Income}}{\text{Common Stock Equity}}$$

2.3 Nucleus Plasma Scheme

Nucleus plasma is a scheme involving farmers (plasma) and investors (nucleus) to increase the productivity of goat and sheep fattening. In this scheme, plasma consists of a group of farmers which has land, barn, livestock that needed to be raised its productivity. The nucleus (investors) is a company that could process the livestock and have a willingness to buy all the livestock that breed by the plasma. Beside that the nucleus is also responsible in giving guidance to the farmers and helping the farmers by providing the facilities needed in fattening the goat and sheep. The facilities provided by the investors will be acted as a lending from the investors to the farmers.

IV. BUSINESS SOLUTION

3.1 Business Issue Solution

This chapter will explain about the best way in goat and sheep fattening to gain the best result in the fattening process which also given the most profit.

3.1.1 Barn Location

There are two places considered by the investors in starting this business. Those places are:

- Jl. Cihanjuang km 8

This location is placed in Jalan Cihanjuang km 8, Cimahi, Bandung. The location is right in the side of the main road that connects Cimahi and Lembang. The land is flat and will be easy to build barn in this place. This place is actually very strategic but there are some concerns that are need to be considered.

The farm location is near to residence area. This could be a problem to the citizen around the farm location because of the sound pollution could disturb them. There is a possibility that the citizen around the barn location could not accept the sheep and goat farm.

The second concern is the place which is far from the main source of food. Since the use of fermentation process for the food, straw is become the most important ingredients. Around the area is very hard to find rice field. Straw is easy to find in rice field area. The transportation cost to bring straw to the farm location could increase the operational cost.

The positive side of this place is near to the farm location there is a lot of vegetables farm. This could be source of income when we can sell the feces of the goat and sheep as a fertilizer for them.

- Camp Hulu Cai, Cibedug.

The second location is in Camp Hulu Cai, Cibedug, Bogor. It is also very strategic location because it is only placed around 8 km from the exit toll gate, Ciawi. The advantage of this place is there is already a goat and sheep farm but they still use traditional way to fatten the sheep and goat. There is already a barn with the capacity of 10 sheep and goats. But the construction is making it very difficult for them to clean the barn.

The other advantages, it is very easy and near to find source of food. The location is surrounded by rice fields, which will be very easy to find straw. The land price of the location is also cheaper than in the Cihanjuang. In this place the price of the land is Rp. 200.000,00/m²

This area also far away from residential area, it gives an advantages because we do not have to worry about sound pollution and it will not disturb a lot of people.

3.1.2 Construction of Goat and Lamb Fattening Barn

The best type of barn in this fattening process is the stage barn. The base of the barn is sloping so it will easy to clean. The air circulation is better in the stage barn. This picture shows the design of the barn.

3.1.3 Goat and Lamb Fattening Process

- Choosing new breed

The fattening process is start from the selection of the new breed. In the selection process the type of the breed that is needed is a healthy goat and sheep at the age of 3 or for months which already passed the breast feeding process. The most common type of sheep to grow is the fat tails type. While for the goat is Jawarandu.

- Food

For the food, the best food to give is the food that process through fermentation process. The advantages using the fermentation food are the weight of the goat and sheep could increase fast, the amount of the feces decreasing, and the barn is not smelly.

Another advantage is because of the fermentation process the food became very easy to absorb by the livestock. It can be seen from the production of the feces that become very little. By giving this kind of food also the livestock always feel hungry. Every 4 hours the livestock should be feed. This is what makes the weight of the goat and sheep increase very fast.

3.2 Financial Analysis

3.2.1 Investment Cost

The initial investment cost consists of the purchase of the land, construction of the barn and the food processing place, equipment, and other support facility.

The total investment needed for build a goat and sheep fattening in Camp Hulu Cai are:

Purchase of Land	Rp. 200.000.000
Equipment	Rp. 46.500.000
Barn Construction	Rp. 81.840.000
Food Processing Place	Rp. 13.300.000
Total Investment Cost	Rp. 341.640.000

3.2.2 Cost of Goods Sold

The cost of goods sold consists of the cost of buying new breed and the food cost. The food cost is the cost that is needed in order to make the fermentation food for the livestock.

3.2.3 Operational Expense

The operational expense consists of the expense to support the operational activity. These expenses are salary expense, marketing expense,

electricity expense, transportation expense, barn maintenance expense, and veterinarian expense.

3.2.4 Weighted Average Cost of Capital

The weighted average cost of capital is only based from the request of the investors. This investment does not need external financing because the investors can fulfill all the fund needed. The investors stated that the return they need is 10%.

In the second scenario the funds for the investment come from the external financing and from the investors itself. With the proportion of the investment is 70% from debt and 30% from equity. The lending rate used is the average of retail prime lending rate from Bank Central Asia, Tbk., PT. Bank Mandiri, Tbk., PT. Bank Rakyat Indonesia, Tbk. and PT. Bank Nasional Indonesia, Tbk. which is 12.00%.

3.2.5 Investment Performance Analysis

The investment performance analysis if the goat and sheep fattening is built in Camp Hulu Cai are:

Table 3.1 Investment Performance Analysis Calculation

WACC	10%
NPV	345,402,822.71
IRR	36.81%
ROI	37.08%
ROE	49.44%
PBP	2 Years 6 Months

From the number above the performance of the investment is promising. Based on the Net Present Value which is bigger than 0, and the IRR which is exceed the weighted average cost of capital we can see that this investment is very profitable.

3.3 Conclusion

Based on the technical analysis, Cihanjuang is not preferable to be used as the place for the goat and sheep fattening project. This is happened because of the Cihanjuang is near to the residential area and far from the source of food.

While Camp Hulu Cai, is more preferable after the technical analysis. The location that is far from the residential area and near to the source of food becomes the strength point.

After the technical analysis, Camp Hulu Cai is the only place suitable for the project. The

investment analysis also show that the NPV is greater than 0, and the IRR is also greater than the Weighted Average Cost of Capital. This result show that Camp Hulu Cai is the most feasible place to implement the goat and sheep fattening project

V. IMPLEMENTATION PLAN

4.1 Implementation Plan

4.1.1 Facility Construction

The implementation of the selected scenarios is started by reconstruct the old barn that already existed so that it can improve the efficiency in the fattening process. Then the next phase is constructing new barn and food processing facility. The timeline for the construction process are:

- First Phase: Land Acquisition

The first phase of this project is land acquisition. The area that needed for the farm with capacity of 100 livestock is around 300 m². The process of acquisition of the land hopefully can be done in one month.

- Second Phase: Construction of Food Processing Place and Old Barn Reconstruction

The second phase is the construction of food processing place, reconstruction of the old barn, and building a new barn. The size of the food processing place is around 10 m x 10 m.

In this phase also the old barn needed to be reconstructed so it will ease the worker in cleaning the barn. The main thing need to be fixed is the barn floor. The barn floor is flat so it will make the worker need a lot of effort to clean it. Sloping barn floor will be made to replace the old one.

- Third Phase: Constructing New Barn

The third phase is building a new barn with the capacity of 30 goat/sheep. The area needed for this construction is around 9 x 5m. That kind of area actually can handle around 60 goats. But in the third phase the construction is only for half capacity.

- Fourth Phase: Constructing New Barn

The final phase is to maximize the barn that already built in the third phase. In the third phase the capacity is only half from the maximum capacity. In the fourth phase the barn is build to reach its maximum capacity.

4.1.2 Fattening Process

- First Phase

The first phase of the fattening process is start with 30 goats/sheep. This phase is the learning phase for the workers in handling the livestock, make the fermentation food, and learn about the animal diseases.

- Second Phase

After learning process for two month, then it starts to add the number of the livestock. In the second phase hopefully the workers already understand and can adapt to the increasing number of livestock they have to handle. In the second phase also the farm start to sell their goat and sheep that already fattened from the first phase.

- Third Phase

In the third phase the capacity of the barn reach its maximum number. In this phase the cycle for selling and buying the livestock is already clear so the farm can get its income regularly every month.

4.2 Suggestions

The writer suggesting that this farm not only focused on the fattening process. In order to make sure that they get the best breed for the fattening process, they start to breeding by themselves. The farm need to find the best breed for goat and sheep fattening so in the future the fattening process could also produce the best goat and sheep meat and ready to infiltrate the international market.

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